

What is claimed is:

1. A method of controlling proppant flowback from a fracture in a subterranean zone comprising the steps of:

providing a resin composition comprising:

from about 5% to about 30% phenol;

from about 40% to about 70% phenol formaldehyde;

from about 10 to about 40% furfuryl alcohol;

from about 0.1% to about 3% of a silane coupling agent; and,

from about 1% to about 15% of a surfactant;

providing proppant particles;

coating the resin composition onto at least a portion of the proppant particles to create resin-coated proppant particles;

introducing the resin-coated proppant particles into the subterranean fracture; and,

allowing the resin on the resin-coated proppant to substantially cure.

2. The method of claim 1 wherein the silane coupling agent is N-2-(aminoethyl)-3-aminopropyltrimethoxysilane, 3-glycidoxypropyltrimethoxysilane, n-beta-(aminoethyl)-gamma-aminopropyl trimethoxysilane, or combinations thereof.

3. The method of claim 1 wherein the surfactant comprises ethoxylated nonyl phenol phosphate ester, a cationic surfactant, a non-ionic surfactant, an alkyl phosphonate surfactant, or combinations thereof.

4. The method of claim 1 wherein the amount of resin composition coated onto the proppant is from about 0.1% to about 5% by weight of the proppant.

5. The method of claim 1 wherein the resin further comprises a solvent.

6. The method of claim 5 wherein the solvent comprises 2-butoxy ethanol, butylglycidyl ether, dipropylene glycol methyl ether, dipropylene glycol dimethyl ether, dimethyl sulfoxide, dimethyl formamide, diethyleneglycol methyl ether, diethylene glycol dimethyl ether, ethyleneglycol butyl ether, diethyleneglycol butyl ether, gamma-butyrolactone, butylene carbonate, propylene carbonate, ethylene carbonate, methanol, butyl alcohol, d'limonene, fatty acid methyl esters, or combinations thereof.

7. A resin composition comprising:
from about 5% to about 30% phenol;
from about 40% to about 70% phenol formaldehyde;
from about 10 to about 40% furfuryl alcohol;
from about 0.1% to about 3% of a silane coupling agent; and,
from about 1% to about 15% of a surfactant.

8. The resin of claim 7 wherein the silane coupling agent is N-2-(aminoethyl)-3-aminopropyltrimethoxysilane, 3-glycidoxypropyltrimethoxysilane, n-beta-(aminoethyl)-gamma-aminopropyl trimethoxysilane, or combinations thereof.

9. The resin of claim 7 wherein the surfactant is ethoxylated nonyl phenol phosphate ester, a cationic surfactant, a non-ionic surfactant, an alkyl phosphonate surfactant, or combinations thereof.

10. The resin of claim 7 further comprising a solvent.

11. The resin of claim 10 wherein the solvent comprises 2-butoxy ethanol, butylglycidyl ether, dipropylene glycol methyl ether, dipropylene glycol dimethyl ether, dimethyl sulfoxide, dimethyl formamide, diethyleneglycol methyl ether, diethylene glycol dimethyl ether, ethyleneglycol butyl ether, diethyleneglycol butyl ether, gamma-butyrolactone, butylene carbonate, propylene carbonate, ethylene carbonate, methanol, butyl alcohol, d'limonene, fatty acid methyl esters, or combinations thereof.

12. A proppant coated with a resin composition wherein the resin composition comprises:

from about 5% to about 30% phenol;
from about 40% to about 70% phenol formaldehyde;
from about 10 to about 40% furfuryl alcohol;
from about 0.1% to about 3% of a silane coupling agent; and,
from about 1% to about 15% of a surfactant.

13. The resin-coated proppant of claim 12 wherein the silane coupling agent is N-2-(aminoethyl)-3-aminopropyltrimethoxysilane, 3-glycidoxypropyltrimethoxysilane, n-beta-(aminoethyl)-gamma-aminopropyl trimethoxysilane, or combinations thereof.

14. The resin-coated proppant of claim 12 wherein the surfactant is ethoxylated nonyl phenol phosphate ester, a cationic surfactant, a non-ionic surfactant, an alkyl phosphonate surfactant, or combinations thereof.

15. The resin-coated proppant of claim 12 wherein the amount of resin coated onto the proppant is from about 0.1% to about 5% by weight of the proppant.

16. The resin-coated proppant of claim 12 wherein the resin further comprises a solvent.

17. The resin-coated proppant of claim 16 wherein the solvent comprises 2-butoxy ethanol, butylglycidyl ether, dipropylene glycol methyl ether, dipropylene glycol dimethyl ether, dimethyl sulfoxide, dimethyl formamide, diethyleneglycol methyl ether, diethylene glycol dimethyl ether, ethyleneglycol butyl ether, diethyleneglycol butyl ether, gamma-butyrolactone, butylene carbonate, propylene carbonate, ethylene carbonate, methanol, butyl alcohol, d'limonene, fatty acid methyl esters, or combinations thereof.